

AMENDMENTS TO THE DRAWINGS

Applicants are submitting a new Figure 1 to address the Examiner's objections to the drawings on page 2 of the Office Action.

Attachment: New Sheet: 1

REMARKS

Status of the Application & Formalities

Claim Status

Claims 1-14 are all the claims pending in the application. By this Amendment, Applicants are amending independent claims 1 and 13 to further clarify the recited features. Applicants are also adding new claims 15 and 16.

Drawings

The drawings are objected to under 37 C.F.R. § 1.83(a) as allegedly failing to show every feature of the invention specified in the claims. Applicants are submitting a new Figure 1 to address the Examiner's objection.

Foreign Priority

Applicants thank the Examiner for acknowledging the claim to foreign priority and indicating that the foreign priority document has been received.

Information Disclosure Statement

Applicants also thank the Examiner for considering and initialing all of the references listed on the PTO/SB08 form filed with the Information Disclosure Statement on December 6, 2005.

Art Rejections

1. Claims 1-5 are rejected under 35 U.S.C. § 102(b) as allegedly being unpatentable by Simm et al. (US 4,447,448).
2. Claims 1 and 8-12 are rejected under 35 U.S.C. § 102(b) as allegedly being anticipated by Thomas et al. (EP 0 969 069).

3. Claims 6-7 and 13-14 are rejected under 35 U.S.C. § 103(a) as allegedly being unpatentable over Simm in view of Weikel et al. (US 6,306,514).

Rejections under 35 U.S.C. § 102

1. *Claims 1-5 are rejected under 35 U.S.C. § 102(b) as allegedly being unpatentable by Simm et al. (US 4,447,448).*

In rejecting claims 1-5, the grounds of rejection state:

Simm discloses a shaped article (see abstract) capable of being used as a valve seal, comprising an elastomer based on ethylene propylene diene monomer (EPDM), and a mineral filler based upon Sillitin (Col. 9, ll. 1-17) which is a natural mixture of quartz and kaolinite (See applicant's disclosure, Pg. 3, ll. 36-37).

Regarding claims 2-5, the mineral filler Sillitin includes (as shown on page 4 of applicant's disclosure) a mineralogical composition of 80% quartz and 20% Kaolinite, a chemical composition of about 8% Al₂O₃ and 87% SiO₂, a pH between 7 and 8, and an average particle size of 2.2 microns.

(Office Action at page 3.)

Simm discloses shaped articles. The Examiner states that these articles are capable of being used as a valve seal. Applicants respectfully disagree.

Regarding independent claim 1, Simm does not disclose at least, "A valve seal intended for a fluid product aerosol dispenser."

Nowhere does Simm disclose that the shaped article is or could be used as a valve seal. Simm discloses that the applications of the shaped articles are for: sealing sheets for building construction and ground work engineering (col. 1, ll.51-52); flat structures, such as films, sheets or panels (col. 4, ll. 19-20); profiles or other structures, such as railings, bumpers, and decorative moldings (col. 4, ll. 49-51); and sealing sheets for covering flat roofs (col. 7, l. 22). Nowhere is it described that these shaped articles are used as a valve seal or that they are in contact with a propellant gas (e.g. HFA), as in a drug dispensing aerosol valve. All of the examples (including

examples 1 & 3 disclosing EPDM and Sillitin) are related to sheets (see col. 8, l. 5; col. 8, l. 46; col. 9, l. 6; col. 9, l. 36; col. 10, l. 4). As such, Simm does not disclose all of the recited features of independent claim 1. Furthermore, since Simm discloses uses in unrelated fields, one of ordinary skill in the art would not have looked to Simm in improving a valve seal.

Applicants submit that claims 2-5 are allowable at least by virtue of their dependency from independent claim 1.

2. *Claims 1 and 8-12 are rejected under 35 U.S.C. § 102(b) as allegedly being anticipated by Thomas et al. (EP 0 969 069).*

In rejecting claims 1 and 8-12, the grounds of rejection state:

Thomas shows an aerosol dispenser with a valve seal, comprising an elastomer based on ethylene propylene diene monomer (EPDM), and a mineral filler based upon kaolin (Col. 2, II. 53-56) which is composed of kaolinite, feldspar and quartz as taught by U.S. Patent No. 4,714,544 to von Rybinski et al. (Col. 1, II. 29-32).

Regarding claims 8-12, Thomas further shows the aerosol dispenser including a reservoir containing a fluid product (Col. 1, II. 42-50), ethanol (Col. 2, II. 33-35), and a propellant of HFC-134a or HFC-227 gas (Col. 2, II. 20-24). The dispenser includes a regulating valve mounted on the reservoir and including a valve element sliding in a valve body with the interposition of the valve seal (Col. 1, II. 42-50).

(Office Action at pages 3-4.)

Applicants submit that Thomas does not disclose at least “a mineral filler based upon quartz (SiO₂) and Kaolinite (Al₄[(OH)₈Si₄O₁₀]).” Additionally, to further clarify the recited features, applicants are amending independent claim 1 to recite, “wherein the mineral filler comprises no feldspar.”

As discussed in the specification of the current application, Thomas discloses the use of EPDM and kaolin. Kaolin is different from Kaolinite and provides different material properties.

Applicants are submitting below a table showing that when kaolinite is used as mineral filler, this provides better results than when kaolin is used as mineral filler.

Properties	EPDM	
	with Kaolin	With kaolinite
Hardness (Shore A)	71	70
Modulus at 100% (Mpa)	3,0	3,5
Tear Strength (dN/m)	38,0	36,0
Compression Set - 22h/70°C	18	12

In particular, the Modulus at 100% (MPa) and the Compression Set, show significant differences between kaolin and kaolinite. These tests have been made with seals where the only difference is the composition of the mineral filler (kaolinite instead of kaolin). All other features were the same (EPDM, test conditions, etc.). As such, the recited mineral filler with kaolinite provides improved elastic and sealing properties over the use of kaolin. In view of these differences, the disclosure of the use of Kaolin does not disclose the use of Kaolinite. As such, Applicants submit that Thomas does not disclose all of the features recited in independent claim 1.

Applicants submit that dependent claims 8-12 are allowable at least by virtue of their dependency from independent claim 1.

Rejections Under 35 U.S.C. § 103

Claims 6-7 and 13-14 are rejected under 35 U.S.C. § 103(a) as being unpatentable over Simm in view of U. S. Patent No. 6,306,514 to Weikel et al (Weikel).

Applicants submit that claims 6-7 are allowable at least by virtue of their dependency from independent claim 1.

Regarding independent claim 13, as discussed above, Simm does not disclose at least “creation of . . . a mineral filler based upon quartz (SiO_2) and kaolinite ($\text{Al}_4[(\text{OH})_8\text{Si}_4\text{O}_{10}]$) and wherein the mineral filler is created without feldspar.”

Claim 14 is allowable at least by virtue of its dependency from independent claim 13.

New Claims

For additional claim coverage merited by the scope of the invention, Applicants are adding independent claim 15. Independent claim 15 is allowable because the cited prior art does not disclose or render obvious at least “a mineral filler based upon quartz (SiO_2) and Kaolinite ($\text{Al}_4[(\text{OH})_8\text{Si}_4\text{O}_{10}]$); and wherein the mineral filler contains no feldspar.”

Claim 16 is allowable at least by virtue of its dependency from independent claim 15.

Conclusion

In view of the above, reconsideration and allowance of this application are now believed to be in order, and such actions are hereby solicited. If any points remain in issue which the Examiner feels may be best resolved through a personal or telephone interview, the Examiner is kindly requested to contact the undersigned at the telephone number listed below.

AMENDMENT UNDER 37 C.F.R. § 1.111
Application No.: 10/559,381

Attorney Docket No.: Q91866

The USPTO is directed and authorized to charge all required fees, except for the Issue Fee and the Publication Fee, to Deposit Account No. 19-4880. Please also credit any overpayments to said Deposit Account.

Respectfully submitted,



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